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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,910	08/21/2003	Shinichi Ishimoto	009683-478	6455
21839	7590	10/13/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			HO, HOAI V	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	
			2818	

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/644,910		ISHIMOTO, SHINICHI	
	<b>Examiner</b>		<b>Art Unit</b>	
	Hoai V. Ho		2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/21/03</u>   | 6) <input type="checkbox"/> Other: _____                                    |

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1. This office acknowledges receipt of the following items from the Applicant:

Information Disclosure Statement (IDS) was considered.

Papers submitted under 35 U.S.C. 119(a)-(d) have been placed of record in the file.

2. Claims 1-9 are presented for examination.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by So et al. U. S.

Patent (USP) No. 6151246.

Per claim 1, Figure 6 of So is directed to a semiconductor storage device comprising: a nonvolatile memory (140) to which data is written in a sector unit (abstract and col. 4, line 64 to col. 5, line2); and a data rewriting unit (615, 620 and 630) rewriting data in the nonvolatile memory (col. 9, lines 27-29 and 48-60), wherein each sector (620, col. 8, lines 48-50 and lines 60-65) in said nonvolatile memory includes: a data area into which data is stored; and a refresh mark into which information indicative of whether refresh has been performed or not is stored (620, col. 8, lines 48-50 and lines 60-65), and said data rewriting unit includes a refresh execution unit (620) referring to said refresh mark and determining whether the sector is refreshed or not, thereby executing the refresh.

Per claims 2-5, Figure 6 of So, starting in col.7, line 61 to col. 8, line 13, discloses wherein said data rewriting unit further includes a refresh zone detection unit (fig. 4B) dividing a block of said nonvolatile memory into refresh zone units for executing refresh, and detecting

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the refresh zone including a sector of a writing target, and said refresh execution unit refreshes the sector included in the refresh zone detected by said refresh zone detection unit every time data is written to a sector.

Per claims 6-9, block 655 and 620 of Figure 6 of So discloses wherein each sector in said nonvolatile memory further includes a data error detection/correction code, and when refreshing the sector, said refresh execution unit writes data corrected by using said data error detection/correction code to the sector (col. 8, line 48 to col. 9, line 5).

5. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Christopherson et al. (USP 5475693) discloses an error detecting and correcting circuitry in a flash memory array.

6. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

7. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai V. Ho whose telephone number is (571) 272-1777. The examiner can normally be reached on 7:00 AM -- 5:30 PM from Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



hvh  
September 14, 2004



Hoai V. Ho  
Primary Examiner  
Art Unit 2818